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Naval Surface Warfare Center  
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EXAMINER

LIEN, TAN

ART UNIT PAPER NUMBER

2141

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/864,830	MASTERS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tan Lien	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTIONS**

### ***Priority***

Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(e). The certified copy has been filed in provisional Application No. 60207891, filed on 5/25/2000.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 recites the limitation "retrieved information" on page 5, line 1 of claim 15. There is insufficient antecedent basis for this limitation in the claim and its parent claims. However, the limitation "retrieved information" in claim 15 has sufficient antecedent basis in claim 14, therefore, it may be appropriate to have claim 15 depend on claim 14 instead of 13. The Examiner will treat claim 15 as a dependent of claim 14.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-10, 17-19, 25, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reps et al (US Patent 6,070,190) in view of Southard (US Patent 5,781,735).

Claim(s) 2, 7, 8: Reps teaches a monitoring system for a distributed environment including N hosts capable of executing M managed characteristic applications, where M and N are positive integers, comprising:

application monitor functions (Abstract; wherein the monitoring functions are done on the client) instantiated by corresponding ones of the N hosts (Abstract; wherein the hosts are server, client and/or central repository) which generate first data corresponding to performance (col. 5, lines 13-15; wherein the system is generating performance data) of the M managed characteristic applications (col. 5, lines 11-15); and

functions instantiated by selected ones of the N hosts which generate performance metrics permitting control of one of the N hosts and the M managed characteristic applications based on the performance data (col. 1, lines 25-32; wherein the system is using the performance metrics data and determine the availability and response of the application program, and permit the system to control or act on the host running the application program according to the response of the application running on the server).

Rep, however, fails to teach the host monitor functions instantiated by the N hosts which generate second data corresponding to performance of all hosts in the distributed environment.

Southard, in an analogous art, teaches a network manager collecting information concerning the operations and output characteristics of workstation on a network, and also teaches providing a network monitor, a proprietary network environment to communicate, an end-user interface system to support network information services, and a resource center to gather host monitor data and network device performance data (Abstract of Southard). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Reps' application monitor functions to generate application performance data and Southard's host monitor functions to generate host performance data, for the advantage of facilitating the organizational control of the network topology (col. 3, lines 1-20).

Claim(s) 19: Reps teaches a software stored on at least one host for converting N networked hosts into a resource managed system instantiating M managed characteristic applications, comprising:

a second function group which provides general-purpose application event reporting and event correlation capabilities (Abstract of Reps; wherein the probe program sends out an application event to check if the other programs are responding and correlate them if the are not responding);

a third function group which provides the reasoning and decision-making capabilities for the resource managed system (FIG. 4 Reps); and

a fourth function group which provides program control capabilities permitting starting, stopping, and configuring of selected ones of the M managed characteristic applications (col. 11, lines 39-41 Reps; wherein the configuration facilities configures the program applications) on respective ones of the N hosts in the resource managed system (col. 25, lines 46-55 Reps; wherein the program control or the probe code cancels or stop alert signals),

wherein:

the second function group includes application monitoring functions instantiated by corresponding ones of the N hosts which generate second data indicative of performance of the M managed characteristic applications (Abstract of Reps); and

one of first and second function groups provides metric functions instantiated by second selected ones of the N hosts which generate performance metrics based on the first and second data and provides the performance metrics to the third function group (col. 1, lines 25-32; wherein the system is using the performance metrics data and determine

the availability and response of the application program, and permit the system to control or act on the host running the application program according to the response of the application running on the server).

Reps, however, fails to teach a first function group which monitors the N hosts and network resources (Abstract of Southard) wherein the first function group includes host monitor functions instantiated by first selected ones of the N hosts which generate first data corresponding to performance of all hosts and network devices in the distributed environment (Abstract of Southard);

Southard, in an analogous art, teaches a network manager collecting information concerning the operations and output characteristics of workstation on a network, and also teaches providing a network monitor, a proprietary network environment to communicate, an end-user interface system to support network information services, and a resource center to gather host monitor data (Abstract of Southard). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Reps' application monitor functions to generate application performance data and Southard's host monitor functions to generate host performance data, for the advantage of facilitating the organizational control of the network topology (col. 3, lines 1-20).

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Claim(s) 1, 3, 9: Reps and Southard teach the monitoring system of claim 2, 8, wherein one of the M managed characteristic applications comprises a scalable application (col. 4, lines 25-27 Reps; wherein adding another application to each of the servers is scalable).

Claim(s) 4, 10: Reps and Southard teach the monitoring system of claim 2, 8, wherein one of the M managed characteristic applications comprises a fault tolerant application, where the degree of fault tolerance is selectable by a user (col. 4, lines 42-46 Reps).

Claim(s) 6: Reps and Southard teach the monitoring system of claim 2, wherein one of the managed characteristic applications further responds to user-initialed control actions (Abstract of Reps).

Claim(s) 17, 25: Reps and Southard teach the monitoring system as recited in claim 8, 19, wherein the application monitor function further comprises:

instrumentation application programming interfaces (APIs) libraries linked to the M managed characteristic applications (col. 13, lines 30-35 Reps); and

N instrumentation daemons (col. 19, lines 8-11 Reps), which receive instrumentation data generated by the API calls from the M managed characteristic applications and reformat the instrumentation data into



instrumentation event messages; and the first data is generated responsive to the instrumentation event messages (col. 19, lines 1-10 and 54-62 Reps; wherein the JDBC and CGI APIs are communicating to the central repository database, and the collected performance data are reformat in a tabular database format so that users can interact with the GUIs that generate events to query the database for a graphical report).

Claim(s) 18: Reps and Southard teach the monitoring system as recited in claim 17, wherein

calls to the API libraries produce respective application performance data for the M managed characteristic applications (col. 19, lines 55-58 Reps).

Claim(s) 27: Reps and Southard teach the software of claim 19, wherein the second function group comprises:

instrumentation API Libraries which are linked with the N copies of the managed characteristic application and provide function call interfaces by which the application copies generate instrumentation data (col. 13, lines 30-35 Reps);

instrumentation daemon functions (col. 19, lines 8-11 Reps), which reside on each of the N hosts, that read the instrumentation data generated by the N copies of the managed characteristic application, that reformat the data into instrumentation event messages, and that send the event messages to

instrumentation collector functions (col. 19, lines 1-10 and 54-62 Reps; wherein the JDBC and CGI APIs are communicating to the central repository database, and the collected performance data are reformat in a tabular database format so that users can interact with the GUIs that generate events to query the database for a graphical report);

the instrumentation collector functions (col. 3, lines 30-31), which are operatively coupled to the instrumentation daemon functions (col. 3, lines 14-17 Reps), that forward the received event messages to instrumentation correlator functions and instrumentation broker functions;

the instrumentation correlator functions that provide grammar-driven capabilities for correlating, combining, and reformatting application data into higher-level metrics provided to the third function group (col. 15, lines 20-49 and col. 19, lines 1-10 and 54-62 Reps; wherein the third function group does the determining whether the service response is successful or unsuccessful, and the correlator functions correlate the collected data before storing them in the central repository database to be reformatted for queries and graphical report); and

the instrumentation broker functions that receive event messages from the instrumentation collector functions and perform task-specific reformatting and data manipulation for driving displays (col. 19, lines 54-62 Reps).

Claim(s) 28: Reps and Southard teach the software of claim 19, wherein

one of the M managed characteristic applications comprises a scalable application (col. 4, lines 25-27 Reps; wherein adding another application to each of the servers is scalable).

Claim(s) 29: Reps and Southard teach the software of claim 19, wherein

one the M managed characteristic applications comprises a fault tolerant application, where the degree of fault tolerant is selectable by a user (col. 4, lines 42-46 Reps).

Claims 5, 11, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reps in view of Southard and Ivanoff et al (US Patent 5,517,622).

Claim(s) 5, 11: Reps and Southard teach the monitoring system of claim 2, 8, but fail to teach

one of the M managed characteristic application comprises a selectable priority application.

Ivanoff, in an analogous art, teaches selectable levels of assurance and message priority are provided to allow applications to interact with a single communications interface (col. 2, lines 45-50). It would be obvious to one of ordinary skill in the art at the time of the invention to modify Reps' managed

characteristic application with Ivanoff's selectable priority application, for the well known advantage of processing a task or message in order of preference or importance (Abstract).

Claim(s) 30: Reps and Southard teach the software of claim 18, but fail to teach one of the M managed characteristic application comprises a selectable priority application.

Ivanoff, in an analogous art, teaches selectable levels of assurance and message priority are provided to allow applications to interact with a single communications interface (col. 2, lines 45-50). It would be obvious to one of ordinary skill in the art at the time of the invention to modify Reps' managed characteristic application with Ivanoff's selectable priority application, for the well known advantage of processing a task or message in order of preference or importance (Abstract).

Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reps in view of Southard and Monteiro et al (US Patent 5,778,187).

Claim(s) 12, 20: Reps and Southard teach the monitoring system of claim 8, 19, but fail to teach

the host monitor functions query all of the N hosts and interconnecting network components on a periodic basis to thereby generate the second data.

Monteiro, in an analogous art, teaches a control server periodically sends Ping Objects to the Media Server across an open TCP connection to verify that the Media Server is still running (col. 15, lines 65-67 and col. 16, lines 1-2). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Reps' and Southard's monitoring system of collecting host performance data with Monteiro's step of periodically sending Ping Objects to the hosts to collect host performance data, for the advantage of determining the liveliness of the servers or hosts in a way as to ensure high-quality and robustness of the network system (Abstract of Monteiro).

Claims 13-16, 21-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reps in view of Southard and Aziz (US PGPub 2003/0154279).

Claim(s) 13, 21: Reps and Southard teach the monitoring system of claim 8, 19, but fail to teach the host monitoring functions comprises:

N host monitors instantiated by the N hosts which collect extensive operating system-level data for each of the N hosts; and a host discovery function employing Simple Network Management Protocol (SNMP) calls and ping Internet Control Message Protocol (ICMP) calls to determine when a new host comes on-line and if an operating one of the N hosts stops operating.

Aziz, in an analogous art, teaches collecting operating system-level data – CPU utilization, disk space, memory, network, server services – over a specified period of time by employing ping, which uses ICMP, and SNMP monitors to monitor for active/inactive IDC hosts (paragraph [0110] and [0112]). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Reps' and Southard's host monitoring system with Aziz's step of employing SNMP and ICMP calls to collect operating system-level data and determine IDC or host activeness, for the advantage of flexibility in deploying complex computer systems using the data collection (paragraph [0003]).

Claim(s) 14,15, 22, 23: Reps, Southard, and Aziz teach a monitoring system of claim 13, 21, wherein

the N host monitors employ operating system-level mechanisms to retrieve information representing the status, the configuration, and the performance on each of the N hosts (paragraph [0095] of Aziz) and wherein the retrieve information includes: operating system version and machine configuration; CPU configuration, status, and utilization; memory configuration and usage; network configuration, status, and utilization; filesystem configuration, status, and utilization; and process statuses including CPU, memory, network, and filesystem utilization for each process (paragraph [0108] and [0110] of Aziz; wherein if the monitoring system can retrieve operating system-level data such as network configuration and CPU configuration and statuses, it is obvious that it can

retrieve other operating system-level data such as filesystem configuration and status and so forth).

Claim(s) 16, 24: Reps, Southard, and Aziz teach the monitoring system of claim 13, 21, wherein

the host monitoring functions further comprise N history server functions which collect data from the N host monitors, respectively, to thereby maintain status and performance histories on each of the N hosts (col. 16, lines 1-10 Reps).

Claim(s) 26: Reps and Southard teach the software of claim 19, wherein the first function group comprises:

history server functions, which collect system-level data from the Host Monitor functions, respectively, maintain status and performance histories on each of the N hosts (col. 16, lines 1-10 Reps), but fail to teach host monitor functions, which reside on and collect operating system-level data each of the N hosts; and a host discovery function which uses Simple Network Management Protocol (SNMP) calls and ping Internet Control Message Protocol (ICMP) calls to determine when new hosts come on-line and if an operating one of the N hosts ceases to function.

Aziz, in an analogous art, teaches collecting operating system-level data – CPU utilization, disk space, memory, network, server services – over a specified

period of time by employing ping, which uses ICMP, and SNMP monitors to monitor for active/inactive IDC hosts (paragraph [0110] and [0112]). It would be obvious to one of ordinary skill in the art at the time of the invention to combine Reps' and Southard's host monitoring system with Aziz's step of employing SNMP and ICMP calls to collect operating system-level data and determine IDC or host activeness, for the advantage of flexibility in deploying complex computer systems using the data collection (paragraph [0003]).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tan Lien whose telephone number is (703) 305-6018. The examiner can normally be reached on Monday-Thursday from 8:30am to 6pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia, can be reached at (703) 305-4003. The fax phone number for this Group is (703) 305-3718.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [tan.lien@uspto.gov].



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All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

  
RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER